WHAT IS CLAIMED IS:

1. A detection apparatus for road obstructions for automatically monitoring obstructions on a road by using a remote monitoring camera, comprising:

a motion vector calculator for calculating a motion vector of a video image in a road area;

a motion vector direction detector for detecting the direction of the motion vector; and

comparison means for comparing the direction of the motion vector with the average of the directions of pre-detected motion vectors in the road area in a normal state, and

wherein, when it is determined by the comparison means that the direction of the motion vector is offset from the average of the motion vectors in the road area in the normal state by not less than a predetermined value, road obstructions are decided.

2. A detection apparatus for road obstructions for automatically monitoring obstructions on a road by using a remote monitoring camera, comprising:

a motion vector calculator for calculating a motion vector of a video image in a road area;

a motion vector direction detector for detecting the direction of the motion vector;

a statistics memory for accumulating the direction of the motion vector and at least the mean value and the pre-detected variance of the directions of pre-detected motion vectors in a road area in a normal state; and

an abnormal motion vector degree calculator for calculating an abnormal motion vector degree from the direction of the motion vector detected by the motion vector direction detector and at least the mean value and the variance of the directions of the motion vectors in the road area in the normal state which are accumulated in the statistics memory, and

wherein road obstructions are detected on the basis of the abnormal motion vector degree calculated by the abnormal motion vector degree calculator.

3. A detection apparatus for road obstructions according to claim 1,

wherein the motion vector calculator calculates motion vectors of respective blocks of a video image in a road area, and the motion vector direction detector detects the directions of the motion vectors of the respective blocks.

4. A detection apparatus for road obstructions according to claim 2,

wherein the motion vector calculator calculates motion vectors of respective blocks of a video image in a road area, and the motion vector direction detector detects the directions of the motion vectors of the respective blocks.

5. A detection apparatus for road obstructions according to claim 2,

wherein the abnormal motion vector degree calculator calculates an abnormal motion vector degree Q of a motion vector $\theta 0$ by the following expression when the mean value and the variance of the directions of the motion vectors in the road area in the normal state are represented by Θ and σ_e^2, respectively.

$$Q = 1-\exp(-(\theta 0-\Theta)^2/2\sigma_e^{2)}$$